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FINAL REPORT
OF
THE JOINT BOUNDARY COMMISSION
ON THE
PARALLEL BOUNDARY
BETWEEN
WEST VIRGINIA AND PENNSYLVANIA.

J. C. GIST,
JOHN J. CHIPLEY,
F. L. HOGE,
Commissioners on the part of West Virginia.

W. W. WALKER,
Commissioner on the part of Pennsylvania.

C. H. SINCLAIR,
U. S. Coast and Geodetic Survey,
FOR THE COMMISSION



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1886.

FINAL REPORT
OF
The Joint Boundary Commission
ON THE
PARALLEL BOUNDARY
BETWEEN
West Virginia and Pennsylvania.

HON. HENRY S. WALKER,
Secretary of State.

SIR:—In compliance with the requirements of the third section of the Act entitled, "An Act in regard to the boundary monuments on the line between the States of Pennsylvania and West Virginia, with an appropriation for the expenses of the same," I have the honor to transmit, for file in your office, the final report of the Joint Commission, appointed by authority of said act, to examine as to the true location of the monuments which mark the boundary line between this State and the State of Pennsylvania, and to replace any monuments which have become dilapidated or been removed from the boundary line between said States, accompanied by the report of Mr. C. H. Sinclair, of the U. S. Coast and Geodetic Survey, who ran the line, with maps and drafts necessary to a clear understanding of the same.

Respectfully, your obedient servant,

F. L. HOGE,
Secretary of Joint Commission.

Wheeling, W. Va.. October 16, 1886.

The Joint Commission appointed by the States of Pennsylvania and West Virginia, to re-locate the boundary line between those States, take pleasure in reporting the completion of the work for which it was selected. By reference to our report made in 1883, it will be seen that the meridian boundary (about sixty four miles in length) and the parallel boundary for a distance of twenty one miles from the South West corner of Pennsylvania, had been surveyed and marked; also a further distance of fourteen and three-tenths miles of the latter boundary surveyed, when the exhaustion of the appropriation, caused a suspension of the work. It was not until the legislatures of 1885 had made the appropriation, estimated by the Commissioners as necessary to complete the survey and marking of the East and West line, that work could be resumed.

The Secretary of the U. S. Treasury, having at our request, kindly detailed Mr. C. H. Sinclair of the U. S. Coast and Geodetic Survey, that gentleman in September, 1885, resumed the field work where it had been suspended in 1883, and completed the survey to the Maryland line about the middle of October. Mr. Sinclair was enabled by the possession of Mason and Dixon's notes of the survey of 1767, to clearly identify the old mounds and thus accurately re-trace the old line. For reasons, which a reading of Mr. Sinclair's report makes obvious, the Commissioners in charge of running the line determined to attempt no rectification of this portion of the line, but to permanently mark it as retraced by Mr. Sinclair.

Capt. Chipley, who had charge of the work of setting the monuments, came out as soon as the survey was completed, contracted for the stone and superintended the planting of them. This work was completed by the middle of November.

The first twenty-one miles had already been marked under the supervision of Mr. McCullough. On receiving notice of the readiness of Mr. Sinclair to report, a meeting of the Joint Commission was called and held in Pittsburgh, Pennsylvania, on the 28th day of January, 1886. At the meeting were present, Messrs Gist, Chipley and Hoge, on the part of West Virginia, and Messrs. McCullough and Walker on the part of Pennsylvania, our honored Chairman, Col. James Worrall of the latter State having been removed by death.

Owing to indisposition Mr. McCullough, who had been elected to the vacant chair, requested Mr. Gist to preside.

Mr. Sinclair, who was present, presented his report with two admirably executed charts embracing everything necessary to a clear understanding of the survey. Before resuming field-work in 1885, Mr. Sinclair had endeavored to obtain information in regard to the monument which marks in the Pennsylvania line the termination of a meridian run by Lieut. Michler of the U. S. Engineers for the Maryland and Virginia Joint Commission in 1859. No report of that commission or copy of it was on file in the records of West Virginia, and the line above referred to appears never to have been accepted by either Virginia or West Virginia as the western boundary of Maryland.

Acting on the same principle which controlled it in the establishment of the North and South boundary between Pennsylvania and

West Virginia, this commission determined to terminate its work at what has been known for years as the intersection of the Virginia and Maryland boundary and the southern line of Pennsylvania. On motion of Mr. Gist it was resolved, that a suitable monument should be erected at the point above mentioned and that the commissioners and Mr. Sinclair should be present to superintend its location.

On motion of Mr. Hoge, the Chair appointed Messrs. Walker, of Pennsylvania, and Chipley, of West Virginia, to audit the accounts of Messrs. McCullough and Hoge of expenditures in the prosecution of the work of the Commission, and to determine a basis of settlement between the two States.

This committee, after due examination, reported that after the payment by Mr. McCullough of \$103.00 due Mr. Sinclair, there would be due the State of Pennsylvania from West Virginia, \$12.49; the expenditures of Pennsylvania, after the payment of Mr. Sinclair's bill, amounting at the time of this meeting to \$4,817.66, and those of West Virginia to \$4 805.17.

Prior to adjournment to meet at the Maryland corner, the Commission adopted resolutions expressing its deep regret at the removal by death of its honored Chairman, Col. James Worrall, of Pennsylvania. His long experience in public life, his acknowledged integrity, ability and energy, and the great interest taken by him, despite of failing health, in the business of this Commission, secured for him its confidence and respect, and deserve this expression of our high appreciation of his many excellent qualities.

Mr. Sinclair having indicated the first of April as the time when he could be present at the erection of the monument in the Maryland line, a meeting of the Commission was appointed for that time. At this meeting, owing to the detention of Messrs. Walker and Chipley by floods, and of Mr. McCullough by illness, only Messrs. Gist and Hoge were at the appointed place to meet Mr. Sinclair. As the monument was found to have been delivered at the proper point, and the necessary force present to place it in position, Messrs. Gist and Hoge determined to proceed with the work and not await the arrival of the other Commissioners. The spot for locating the monument was first ascertained by measurement from the meridian monument erected by Lieutenant Michler, of the U. S. Engineers (whose notes Mr. Sinclair had obtained) and from the testimony of adjacent land-owners, old residents and surveyors.

A full description of the monument is given in Mr. Sinclair's report. On the north face is inscribed the date of survey, 1885, and the initials "Pa." The south, east and west faces are divided into equal parts by a vertical line, intended to show the intersection of the State lines. On the north half of the east face is inscribed the initials "Pa."; on the south half the initials "Md."; on the east half of the south face the initials "Md."; on the west half the initials "W. V." The south half of the west face bears the initials "W. V." and the north half the initials "Pa."

During the preparation of this report the Commission has received intelligence of the death of another of its members, that of Mr. James McCullough, of Pennsylvania. Though well advanced

in years, Mr. McCullough, as a member of the Executive Committee, has from the beginning of the survey in May, 1883, to the end in November, 1885, shown a zeal and energy commendable in a much younger man; in fact, it may be said that the last years of his life were devoted to this service.

We cannot close this report without the expression of our sense of obligation to Mr. Sinclair for the able and thorough manner in which he has conducted the survey. The Commission congratulates itself on having secured the services of a gentleman so accomplished in his profession, and views the severance of its very pleasant relations with him with sincere regret.

The joint expenses of the two States in the prosecution of the work for which this Commission was created, amount to (\$9,689.75) nine thousand six hundred and eighty-nine and 75-100 dollars. Mr. Sinclair's report, with charts, accompany and are made part of this report.

Respectfully submitted,

J. C. GIST,
JOHN J. CHIPLEY,
F. L. HOGE,

Commissioners on the part of West Virginia.

W. W. WALKER,

Commissioner on the part of Pennsylvania.

NOTE—The maps of Mr. Sinclair had received Mr. McCullough's approval prior to the writing of this report.

F. L. HOGE,
Sec'y Joint Commission.

REPORT
ON THE
SURVEY OF THE PARALLEL BOUNDARY.
BETWEEN
PENNSYLVANIA AND WEST VIRGINIA.
1885.

CHARLOTTSVILLE, VA., January 15, 1886.

Hon. James McCullough, Chairman of the Pennsylvania and West Virginia Boundary Commission, Cannonsburg, Penn.

DEAR SIR:—I take great pleasure in submitting to the Commissioners my final report on the completion of the survey of the parallel boundary between the States of Pennsylvania and West Virginia

Upon application of the Commissioners to the Secretary of the Treasury, I was detached from duty in Kansas and directed to take charge of this work. I started to Washington on September 4th, to secure the instruments necessary for conducting the survey. Every facility was given me at the Coast and Geodetic Survey Office, so that in a week after reaching Washington I was able to leave for the field. As soon as possible the Commissioners were notified of the date on which I would be at Point Marion, the nearest point for beginning the work, where accommodations could be found for the party.

I reached Point Marion on the 15th of September with the instru-

ments and outfit, and was ready for starting the field work, but owing to the short notice given the Commissioners the party did not assemble until the 23d.

In the meantime, I determined the azimuth for ranging out the line by twenty-four observations on Polaris, and error of the chronometer by means of five time stars, at a point 242 feet east and four feet south of the terminal mound of the third tangent, of 1883, and with the kind assistance of Mr. Joseph Burchinal looked for old mounds to the eastward on the mountains, and opened a line through the heavy woods on the summit and west side of the Laurel Hills, besides locating a forward point on the summit 4.5 miles distant from the beginning of the tangent.

The work was conducted precisely as in 1883, so that it is unnecessary here to describe it in detail. Practically the same instruments were used also.

You will recollect that the entire distance between the southwest corner of Pennsylvania and the Maryland corner was divided into four sections, and that three of these were surveyed in 1883. Only the fourth or last section was run in 1885.

The Superintendent was not able to assign me an assistant, in consequence of which it was necessary for me to both range out the tangent or guide line and afterwards measure its length and locate all the old boundary marks.

On the 24th of September, the day after the party arrived, points were interpolated between the azimuth station and the summit of the Laurel Hills, and next day the large transit was moved to the forward point 4.5 miles distant, from which another point was located on the heavily wooded ridge owned by J. W. Kelley, a little more than two miles further east. When the transit was set up at this new station it was found necessary to move it about 1,000 feet to the eastward on the second summit of the same ridge, in order to overlook a long timbered slope and see a high ridge somewhat more than a mile away.

From this second station on Kelley's ridge a sight of more than nine miles was obtained to the ridge just beyond the Five Forks, owned by Adam Sliger, and points were interpolated on all of the prominent intervening hills. Two more short sights from Sliger's ridge, of about 1.5 miles each; carried us practically to the Maryland corner, which point was reached on the 8th of October, and the measurement of the line was begun in the afternoon of the same day.

As in 1883, small triangulation was employed for getting the distances, on account of the broken character of the country.

By the 19th of October, despite frequent rains, the measurement of the fourth tangent was completed. Between the showers next day a point was located on the high bluff near the east bank of the Cheat river, and on the 21st, all of the third tangent and a part of the second, as far as Mt. Morris, was reviewed—a distance of 11.5 miles—to locate several new stubs and see that the pegs of 1883 were still in place. This completed the work of the organized party, which was then ready to be discharged.

By the 26th of October I had computed the position of the inter-

mediate points on the fourth tangent, set the pegs and left for Harrisburg to obtain additional data for constructing the charts. I found it also necessary to visit Philadelphia to consult Mason and Dixon's field notes, and secure material for the maps.

On the fourth or last tangent there were eighteen old mounds or line marks used in retracing the boundary. Most of them were well defined mounds or stone heaps. One was a line tree, another a line fence. On the last section the fences were very generally on the line. The large stone that marks the north end of the meridian through the Fairfax stone was also used as a line mark.

After leaving the initial mound on the fourth tangent, the first line-mark is a white oak tree on the east side of the Morgantown and Fairchance pike, between the lands of Messrs. Williams on the north and Pugh on the south. The new monument was placed on the west side of this tree at 1.95 miles distant and four feet north of the tangent. An old stone heap was supposed to have been on the mountain side about half a mile east of this point, but no one knew its position.

The next mark is a well defined stone pile in the midst of thick timber about one mile west of the summit of the Laurel Hills. Both sides of the line are owned by the Fairchance Furnace Co. A long cut was made about twenty feet south, extending east and west. The new monument, was set in the centre of the stone pile, at 3.6 miles and 29.6 feet north of tangent. The next old mark is a stone pile about 700 feet east of the summit of the Laurel Hills, in a very inaccessible place on the steep mountain side. Both sides are owned by the Fairchance Furnace Co. It is 4.6 miles and 35 feet north of the tangent. Instead of marking this mound with a stone monument, a new position was selected on the top of the mountain, commanding an extensive view east and west, at a distance of 4.45 miles and 34.3 feet north of the tangent.

The next mark is the line fence on the north side of Mr. Grimm's land. This fence is ten feet north of the line between the next mounds east and west of it, but its position was well defined and the boundary through here is not more irregular than that portion near the west foot of the Laurel Hills. There was no authority for making any change. The new monument was placed 5.5 miles distant and 58. feet north of the tangent.

The next mark is a well defined stone pile on the easterly of the two ridges of Kellev's mountain. It is about 800 feet east of this second summit and cliff of large rock. Messrs. Barnes and Caruthers own the north and J. W. Kelley the south side. The new monument was placed in the center of the pile at a distance of 6.55 miles and 61.7 north of tangent.

The next mark is a well defined earth mound on a high hill with heavy woods on the north, owned by Jackson Meyers, and a cleared field south, owned by Jesse Smith. It is about 400 feet east of the Haydentown road. The new monument was placed in the center 7.65 miles distant, and 68.5 feet north of the tangent.

The next mark is the remains of a stone heap on a high cleared hill under the line fence between the land of Jonas Maust on the south, and Mrs. Haines on the north side. It is about $\frac{3}{4}$ mile west

of Big Sandy creek. At one time the land on both sides was owned by one man, and he removed most of the stones from the midst of the field. The place was pointed out by one of the land owners who has known the location for fifty years, and remembers well the old stone heaps. The new monument was set in the center, at a distance of 9.15 miles and 89.7 feet north of the tangent.

The next mark is a very large earth mound on the top of the south side of the public road, running along the line here. The north side is owned by Joseph Prinkey, south side by John Harader. An old graveyard, enclosed by a stone wall, projects into the road on the north side, within fifty feet of the mound. The new monument was placed in the center at a distance of 10.8 miles and 123.5 feet north of the tangent. About half a mile west of this was a mound recently destroyed while the road was being worked.

The next mark is a well defined earth mound about half a mile east of the old graveyard above mentioned. It is on the west side of a small run about 800 feet west of Little Sandy creek, in a deep wooded hollow. The north side is owned by Samuel Maust, south side by Lawrence Neiner. As this is so close to the preceding, no stone monument was placed here. Distance from the initial 11.35 miles and 133.1 feet north of the tangent.

The next mark is an earth mound, very indistinct but with its position well preserved by the junction of three estates, John Seese and Price McClellan on the north and Henry Carter on the south side. The new monument was placed in the center 11.85 miles distant and 146.25 feet north of the tangent.

The next mark is a well defined stone heap on a high cleared hill between the land of Ezra Thomas on the north and Samuel Thomas on the south side. It is at the east end and a little south of a short stone fence. The new monument was set in the center at a distance of 13.15 miles and 180 feet north of the tangent.

The next mark is an irregular stone pile in a large body of woods—though near the mound the woods are small and sparse—down in an extensive flat not near any fence or good reference mark. The north side is owned by Marshall Wright, south side by Harrison H. Glover. Distance 14.35 miles and 195.48 feet north of the tangent. A new monument was set in the center.

The next mark is a very large earth mound on the south side of the line road, on top of Sliger's ridge, about 1,100 feet east of the Five Forks. Woods on the north side owned by Christopher Dennis, cleared on the south owned by Adam Sliger. The new monument was placed in the center at a distance of 15.8 miles and 228.65 feet north of the tangent.

The next mark is a well-defined irregular stone heap under the line fence, with woods on the north, owned by Perry Rynd, and cleared field south owned by Alpheus Cuppett. It is on the north slope of the hill. A new monument was set in the centre, distant 17.35 miles and 269.84 feet north of the tangent.

The next mark is a large, well-defined stone pile on a high hill in the woods, about 1,300 feet west of the Brandonville and Somerfield pike. The north side is owned by James Fearer; south side by John Glass. The new monument was placed in the center, Distance 8.4 miles and 298.9 feet north of the tangent.

The next mark is the large sandstone that marks the north end of the meridian through the Fairfax stone on the east side of the Brandonville and Somerfield pike. This stone was set in 1859 by the party of Lieutenant Michler. It is about fifteen inches square at the base, tapering smaller towards the top, and terminates in a pyramid. It is six feet long, three and a half feet out of ground. The north side is owned by John Glass, south side by Sebastian Dean. Distance from the initial is 18.65 miles and 310.51 feet north of the tangent.

The last mound marks the junction with Maryland. It is three fourths of a mile east of the stone above described.

The new monument was placed in the centre, and is 19.45 miles distant and 333 53 feet north of the tangent.

Abraham Thomas owns the land on the south side. This monument is sixteen inches square, dressed three and one half feet and rough cut three and one half feet. The underground cube is 16x16x16 inches.

As was indicated by the last three mounds on the third tangent in 1883, the line tends to come back towards the theoretic curve through the south west corner of Pennsylvania. The stone pile one mile east of the summit of the Laurel Hills is 36 miles distant and 25.6 feet north of the tangent through the first mound. It should have been theoretically 7.1 feet north, showing thus a bend to the north of 18.5 feet, a very rapid gain.

The eighth mound, at a distance of 10.8 miles has an offset of 119.5 feet. Theory makes it 64.7 feet; the bend north is therefore 54.8 feet.

At the stone marking the north end of the meridian through the Fairfax stone, the offset is 306.5 feet. It should have been by theory 193.0 feet, showing a bend to the north of 113.5 feet.

At the junction with Maryland, 19.45 miles distant, the offset is 329.5 feet north of the tangent through the first mound. It should have been theoretically 208.5 feet, showing an accumulation of bend to the north of 121.0 feet. (See table at the end.)

The initial mound of the fourth tangent is 172.1 feet south of the theoretic course through the south west corner of Pennsylvania, and the bend north at the end of the line amounts to 121.0 feet so that the line at the termination is only 51.1 feet south of this theoretic course.

Taking the line, section by section, it will be seen that the apparently regular part is very irregular, that is, when referred to the astronomical parallel, and that the irregular portions are about as well laid down as the other.

The first section, between the S. W. corner, latitude 39 degrees 43 minutes 18.19 seconds, and Lantz's Hill, latitude 39 degrees 43 minutes 18.97 seconds. By reference to the theoretic curve the S. W. corner, the old post hole on Lantz's Hill falls 11.75 feet south; astronomically it is 78.93 feet north, or the line in 11.5 miles is in error 90.68 feet.

If the astronomical parallel should be insisted upon, the line would have to be made very irregular, instead of the almost theoretic curve now existing.

The next section, Lantz's Hill, latitude, 39 degrees 43 minutes 18.97 seconds, and Bald Hill, latitude 39 degrees 43 minutes 18.44 seconds, (the latitude station is one and a-half miles west, but the latitude here is assumed to be the same). The old mound on Bald Hill is about fifty-four feet south of the point on Lantz's Hill, astronomically. It is 69.7 feet south of the theoretic curve through Lantz's Hill, or in fourteen miles the line is in error only about 15.7 feet. This theoretically irregular portion is thus seen to be astronomically quite regular.

The next section, Bald Hill latitude, 39 degrees 43 minutes 18.44 seconds, and Harvey's latitude 39 degrees 43 minutes 18.14 seconds. Astronomically, Harvey's is a little over thirty feet south of Bald Hill; referred to the theoretic curve through Bald Hill, it is over eighty five feet south; the error in ten miles is about fifty-five feet.

The last section, Harvey's, latitude 39 degrees 43 minutes 18.14 seconds and the north terminus of the Fairfax stone meridian, 1859, latitude 39 degrees 43 minutes 17.92 seconds. (Latitude was observed at this stone, and I use this instead of the end of the line three-fourths mile east). The latter is 22.26 feet south of the former astronomically; by reference to the theoretic curve through Harvey's, it is 113.5 feet north of Harvey's, or an error of 135.8 feet in 18 65 miles.

On a uniform spheroid, one with no irregularities in elevation, and no variation in density, it would be a very simple matter to lay down a parallel of latitude, but when we have to deal with a very uneven surface and deviation of the plumb line or displacement of the zenith, the laying down of such a line becomes both difficult and expensive, consequently, astronomers adopt practical, rather than purely theoretical methods in dealing with boundaries of this nature. All are approximations.

A wholesale correction of this boundary would have caused endless litigation and a large outlay of money, without any practical return to the States. Where the old marks were so numerous as on the last thirty four miles, there was no occasion for making any change in existing points, and on the first part of the line where the marks were rather scarce, no material change was made in the traditional boundary.

Quite a number of the old mounds on the portion run by Mason and Dixon have been identified by the close agreement of the two measurements. It is thus very easy to prove that the stopping place of Mason and Dixon is not the "second crossing of Dunkard," but Brown's Hill, a short distance West of the third crossing of Dunkard. Besides the agreement of distances between the last seven or eight mounds on the West end of Mason and Dixon's work, an extract from their field notes found in the State Department, Washington, D. C., gives positive evidence of the West terminus being a mound on a high hill:

"The sector stood on ye top of a very lofty ridge, but when ye offset was made of 3 chains, 38 links, it fell a little Eastward of the top of ye hill; we therefore extended ye true parallel 3 chains, 80 links Westward, which fell on ye top of said ridge; there, viz: at 233 miles, 17 chains, 48 links from the post marked West in Mr.

Bryan's field, we set up a post maked W. on ye West side, and heaped around it earth and stone three yards and a half diameter at ye bottom and five feet high. The figure nearly conical." This post is 230 miles, 18 chains, 21 links from the beginning of the West line.

The mound on Brown's hill was the most Westerly one found during the survey of the boundary.

There were several places where the mounds (or traditions of mounds) were too close together for mile marks, and I was not able to account for them until Mason and Dixon's notes were consulted. From these I learned that mounds had been placed not only at every mile, but also on the summit of the prominent ridges. It is very evident that many of the mile mounds fell in hollows or on the hill sides and were destroyed in the course of time, and that most of those now in existence are the ridge mounds, and the distances between these of course vary as the hills themselves. These ridge mounds are the principal ones marked with new stone monuments.

No attempt was made to restore the mile marks, as the adjacent ridges are intervisible and generally not very far apart.

There are two charts of the line, both on a scale of 1-40,000. The first was designed to show the method of tracing the boundary by means of tangents, all the old line marks, the new monuments and the variation of the boundary from a theoretic curve and a uniform spheroid. This theoretic curve is drawn through the south west corner of Pennsylvania for convenience; it might just as well have been assumed through any other point, or even made the mean theoretic parallel.

The second chart shows the State line in plan, and is the complete map of the boundary giving the stones by number, and the distances in miles and feet, counting from the south west corner.

These two maps are essential for showing all the details of the survey, and are complete in themselves without reference to the chart of 1883, which is included in the first, with some changes.

Yours Respectfully,

C. H. SINCLAIR,

Coast and Geodetic Survey.

JAMES McCULLOUGH,
W. W. WALKER.

Commissioners of Pennsylvania.

J. C. GIST,
JOHN J. CHIPLEY,
F. L. HOGE.

Commissioners of West Virginia.

REPORT OF BOUNDARY COMMISSION.

FOURTH TANGENT.

OBJECT.	Distances on Tangent.		North of Tangent.	Theoretic Offsets.	Bend of Line.	South of Theoretic curve through S. W. corner.	REMARKS.
	Miles	Feet.	Feet.	Feet.	Feet.	Feet.	
26" New Mon't (old mound)	0	0.0	0.0	0.0	0.0	172.1	Harvey.
27" " " (line tree)....	1	5037.1	0.0	2.1	21.8	174.2	Pugh.
28" " " (old mound)	3	3116.2	25.6	7.1	18.5 N	153.6	W. of sm't Laurel Hills
29" " "	4	2406.6	30.3	11.3	19.0	153.1	Summit Laurel Hills.
Old mound E. of summit.....	4	3091.6	31.0	11.6	19.4	152.7	No new monument.
30" New Mon't (line fence)...	5	2510.6	54.0	16.6	37.4	134.7	Grimm.
31" " " (old mound)	6	2820.6	57.7	23.6	33.1	139.0	Kelly.
32" " " (old mound)	7	3366.9	64.5	32.2	32.3	139.8	Myers.
33" " " (old mound)	9	787.8	85.7	46.2	39.5	132.6	Haines.
34" " " (old mound)	10	4316.0	119.5	64.7	54.8	117.3	Prinkey.
Old m'nd W. of Little Sandy	11	1965.6	129.1	71.4	57.7	114.4	No new monument.
35" New Mon't (old mound)	11	4634.3	142.2	78.0	64.2	107.9	Carter.
36" " " (old mound)	13	876.1	176.0	95.8	80.2	91.9	Thomas.
37" " " (old mound)	14	1825.9	191.5	113.8	77.7	94.4	Glover.
38" " " (old mound)	15	4198.5	224.6	137.9	86.7	85.4	Sliger.
39" " " (old mound)	17	1830.6	265.8	166.3	99.5	72.6	Cuppet.
40" " " (old mound)	18	2215.7	294.9	187.5	107.4	64.7	Glass.
N. end of Meredian through Fairfax Stone.....	18	3547.1	306.5	193.0	113.5	58.6	East side of Pike.
Maryland corner (old m'nd)	19	2237.1	329.5	208.5	121.0	51.1	End of the line.

Tangent corrected for constant offset.

TREASURER'S REPORT.

STATE OF WEST VIRGINIA

In Account with Pennsylvania and W. Va. Boundary Commission.

1879.	Expenses to Com. Conference	\$ 2 55
1883.		
April	10, Expenses to Pittsburgh	4 90
	11, " of J. J. Chipley	24 20
	11, Per diem of same	24 00
	11, Secretary of State and Keeper of Rolls	5 00
	12, Books for Joint Commission	90
May	1, Per diem B. and I. Hardesty	25 00
	7, Incidentals (telegrams, &c.)	52
	8, Fare to Smith's Ferry.	1 55
	8, B. F. Hardesty	1 00
	10, Board of party at Smith's Ferry	30 50
	11, Sundries	4 26
	13, Umbrella for transit, 2.25; Sinclair, 5.00; Pendleton H., 4.00	11 25
	13, Board at East Liverpool, &c	3 30
	13, Muslin for signals	1 75
	14, C. H. Sinclair	20 00
	15, Livery and board of party	50 50
	15, Hardware	2 24
	16, Board of party and mdse	25 25
	18, Board and livery	8 00
	18, Mdse, &c	5 75
	19, Livery and board	16 95
	20, Board, ax, &c	7 40
	20, Expenses to Smith's Ferry, &c	2 50
	21, Board, &c	3 50
	22, Board of party and expenses to Fairview	22 25
	23, Express, &c. to N. Cumberland	1 30
	24, Axmen, &c., 3.00; C. H. Van Orden, 15.00	18 00
	25, Mdse and ferry	2 39
	25, Board and axmen at Crosses, and advancements to men	37 65
	25, Gardner & Scott	6 55
	27, Board of party, railroad fare, &c.	5 95
	28, Satchel for instruments	1 50
	29, Scott, 20.00, mdse, 2.65; draft for C. H. Sinclair, 75.25	97 90
	30, Board at Kline's	1 80
	31, Board, 5.35, Scott, 5.00; I. H. L., 10.00	20 35

1883.		
June	1, Expenses to Steubenville.....	1 30
	2, Kline on acc't, 20.00: B. F. H., 10.00; H. H. P., 10.00; C. H. Van Orden, 40.00: mdse, 20c.....	80 20
	3, Scott, 1.50; Farish, 1.30; ferry, 20c.....	3 00
	6, Farish for expenses, 10.00; board of party, 31.75	41 75
	8, Munnell, 1.00; Hardesty, 3.00... ..	4 00
	9, Munnell, 10.00; Foutz, 3.00; I. H. L., 50c.; Chipley, 2.00; Farish, 10.00; Geo. M., 2.00; Nickels, 1.50.....	29 00
	10, Munnell, 5.00; Hardesty, 5.00	10 00
	12, Farish for expenses, 7.00; Col. Gist, 66.00.....	73 00
	13, Horse hire	50
	14, Board at Armstrong's.....	2 00
May	14, Guy for fence.....	3 00
	14, Scott and self, W. Alexander.....	1 50
	15, Board, &c.....	5 30
	15, Scott and mdse.....	1 25
	17, Board and fare.....	4 60
	18, B. F. Hardesty, 25 00; Van Orden, 40.00; J. J, Chipley, 30 00: railroad and dinner, 1.20.....	96 20
June	20, Expenses at Cameron ...	65
	22, Board at Griffith's.....	2 50
	22, Board at McGuffy's, &c	1 65
	26, I. L. Hardesty, on account ...	10 00
	26, C. H. Sinclair, 80.00, Chipley, 12.05....	92 05
	26, Board at Black's.....	1 20
	26, R. R. Fare.	1 80
	29, Chipley, J. J.....	25 00
July	2, B. F. H 10.00; I. L. H. 10.00; Van Orden, 30.00; H. H. Pendleton, 20.00; Rine for livery 18.00; Chipley, 25.25.....	113 25
	2, Farish, 10.00; Hall, 2.25.....	12 25
	3, Expenses to Pittsburgh.....	14 30
	25, B. F. Hardesty.....	51 25
	30, Rine, for livery.....	39 50
August	9, Expenses to Independence.....	3 63
	10, I. L. Hardesty in full.....	62 96
	10, Expenses Chipley, setting stones.....	268 00
	11, Daily, on account of stone, 50.00: C. H. Sinclair, 100.00: H. H. Pendleton, 18.60.....	168 60
	11, Expenses for platforms, for latitude stations.....	36 56
	11, Capt. Chipley, <i>per diem</i>	207 20
	21, P. Daily, account of monuments.....	50 00
	9, Scott & Scott.....	3 65
June	22, Myers for board.....	1 50
	26, Scott & Foutz.....	10 10
August	11, H. H. Pendleton.....	50 25
September	19, Bower & Co. livery.....	62 50
	10, Expenses to Harrisburg and Cannonsburg..	28 35
October	20, I. L. Hardesty.....	103 44
	28, I. L. Hardesty. 53.20; B. F. Hardesty, 33.40; Geo. P. Sargent, 23.10....	109 70
	28, C. H. Sinclair, 24.50; Van Orden, 243.73.....	485 23
November	7, McColloch, Pennsylvania Commissioner.....	50 00
	14, Walters & Lhigget	7 75
	14, Merchandise.....	80
	14, Livery.....	7 00
	14, Labor	5 25
	14, Board at W. Alexander.....	5 60
May	24, Board at Hill's.	1 00
June	15, Axman	25
1884.		
January	1, Ott Bros'. Hardware.....	2 20
August	29, Expense to Hamilton.....	5 25

REPORT OF BOUNDARY COMMISSION.

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1884.			
October	20, Per diem F. L. Hoge.....	\$	540 00
	20, Cap't Chipley, expense 23.25; per diem 24.00		47 25
December	24, C. H. Van Orden.....		68 40
	24, Hartley for monuments		70 95
	31, McCulloch, check.....		20 00
	31, Expense and telegrams		3 23
	31, Postage.....		3 50
	31, Stationery		1 50
1885			
July	30, Jno. J Chipley		45 00
November	20, Per diem John J. Chipley, thirty-five days at \$6 00 per day.....		210 00
	20, Expenses.....		388 92
	16, C. H. Sinclair.....		150 00
September	19, Secretary of State		2 50
November	5, T. R. Kennedy		46 50
1886.			
January	28, F. L. Hoge, per diem to date		180 00
	28, C. H. Sinclair.....		70 25
	29, Jno. J. Chipley, per diem to date.....		60 00
	29, Jos. C. Gist, per diem and expenses		40 00
	29, Railroad fare—Wheeling to Pittsburg, Chipley, Hoge and Kennedy		10 00
	29, Expenses at Pittsburg.....		11 00
	29, F. L. Hoge, two day's per diem		12 00
	29, Express on maps		35
March	31, Pittsburg and expenses		3 50
	31, Gist and Hoge to Ohio Pyle and telegram		4 75
April	1, Express and fare from Ohio Pyle to Confluence.....		2 75
	1, Thomas, \$1.75, Sinclair, \$24 40.....		26 15
	1, Chipley, per diem and expenses		50 00
	1, Hotel and team, at Monu Confluence, Penn.		5 80
	1, Monuments and setting same		9 12
	1, Expenses to Wheeling.....		6 25
	3, Col. Gist, per diem and expenses		39 50
	3, Board at Deam's		5 00
	4, Per diem, F. L. Hoge, four days at \$.600.....		24 00
June	17, Col. Gist, per diem and expenses.....		20 00
November	1, Four day's office work		24 00
	1, Express on plats		2 75
1883.			
	F. L. Hoge, as engineer from the 4th day of June, 1883, to the 26th June, 1883, twenty-two days at \$4 00.....		88 00
		\$	5,280 10

STATE OF WEST VIRGINIA

In account with Pennsylvania and W. Va. Boundary Commission.

TOTAL AMOUNT APPROPRIATED FOR THE PENNSYLVANIA AND WEST VIRGINIA BOUNDARY.

		By account of March 10, 1879	\$	1,000 00
		Received March 4, 1881 (by warrant)		1,000 00
1883.				
May	7, By warrant.....			1,000 00
June	18, same			1,000 00
August	21, same			1,000 00
1885.				
October	24, By warrant.....			1,250 00
				5,250 00
		Interest on \$1,000 two years two months at 3 per cent.....		65 00
		Interest on deposits		5 36
		Balance paid by Pennsylvania Commission		21 00
				5,341 36

REPORT OF BOUNDARY COMMISSION.

TOTAL EXPENDITURES.

Per diem and expenses of Commissioners	\$ 1,707 45	
Engineers	1,223 13	
Assistants and expenses.....	1,245 11	
Monuments	1,104 41	
Total amount appropriated.....		5,250 00
Interest.....		70 36
By balance paid by Pennsylvania Commissioner.....		21 00
	5,280 10	5,341 36
1886.		
November 17, Balance due State	\$ 61 26	
	5,341 36	5,341 36

HON. HENRY S. WALKER,

Secretary of State :

SIR—The above account of expenditures by the Commission on Pennsylvania and West Virginia Boundary, I certify to as correct to the best of my knowledge and belief.

Respectfully yours,

F. L. HOGE,
Secretary of Joint Commission.